

most accessible healthcare professional. Pharmacists might provide support in optimizing therapeutic regimens, monitoring therapeutic progress, and addressing drug-related problems.

**Purpose:** The objective is to analyze the attitudes of patients and practicing pharmacists regarding the implementation of clinical pharmacy services in the care of patients with rheumatoid arthritis (RA) in Bulgaria.

**Method:** A cross-sectional online survey was conducted among practicing pharmacists across the country and RA patients being monitored at the University Hospital “Ivan Rilski” in Sofia, Bulgaria between June 2024 and September 2024. The survey aimed to assess their attitudes towards the provision of pharmaceutical care services (PCS). Data were processed using the specialized statistical software MedCalc v. 23.0.5, applying the following analyses: point and interval estimation, frequency and graphical analysis, and hypothesis testing for the studied variables.

**Findings:** As patient age increased [n=100, average age 53.34 years, 95% CI 50.00–55.00], the number of respondents who answered positively that the pharmacist provides necessary medication information also increased ( $p=0.0494$ ). A statistically significant majority of patients (57%) reported they would not pay for PCS, and 48% never consult a pharmacist ( $p < 0.0001$ ). Among the 53 pharmacists surveyed, a statistically significant majority (87%,  $p < 0.0001$ ) had not received additional training on RA, with most agreeing that a service fee for PCS should match that charged by the attending physician (1.45 euro) (42%,  $p < 0.0001$ ). Bulgarian pharmacists identified the benefits of PCS for RA (such as increased trust in pharmacists (88.68%) and improved quality of life (83.02%)), while also highlighting considerable obstacles, including lack of time (81.13%) and financial incentives (52.83%).

**Conclusion:** Efforts are needed not only to ensure adequate regulatory and financial access to RA treatment in Bulgaria but also to establish the active role of pharmacists in patient care to achieve desired outcomes.

<https://doi.org/10.1016/j.sapharm.2025.02.019>

#### The role of the pharmacist in the treatment of patients with multiple sclerosis

Todor Georgiev<sup>1</sup>, Mariya Kamusheva<sup>1,\*</sup>, Valentina Petkova<sup>1</sup>, Yoana Seitaridou<sup>1</sup>  
<sup>1</sup> Faculty of Pharmacy, Medical University of Sofia, Bulgaria

\* Corresponding author:

E-mail address: [mkamusheva@pharmfac.mu-sofia.bg](mailto:mkamusheva@pharmfac.mu-sofia.bg) (M. Kamusheva).

**Background:** Multiple sclerosis (MS) is a chronic neurological disease that leads to progressive disability, impairing the quality of life for patients and their families. Optimizing drug therapy and preventing drug related problems, with the active role of the pharmacist, can reduce the frequency of hospitalizations and the need for additional medical interventions, resulting in lower healthcare system costs.

**Purpose:** To evaluate the role of pharmacists in the treatment of patients with MS, with a focus on their integration into the multidisciplinary team.

**Method:** A four-step analysis was conducted: (1) a systematic review of scientific literature to assess the pharmacist's role; (2) a cross-sectional survey among 63 MS-diagnosed patients receiving care at the Neurology Clinic of University Hospital “Alexandrovska” in Sofia to assess their attitudes toward pharmaceutical care (PC); (3) a SWOT analysis to identify marketing opportunities for implementing pharmaceutical care for MS in Bulgaria; and (4) development of a pharmacist protocol to identify and prevent drug-related problems (DRPs) among MS patients. Survey results were analyzed using the Statistical Package for the Social Sciences (SPSS) and Microsoft Excel.

**Findings:** The systematic review identified 11 relevant studies indicating that including pharmacists in multidisciplinary teams improves adherence to therapy and reduces DRPs. The majority (75%) of patients consider pharmacist involvement important, but the percentage of patients consulting pharmacists (27%) and those willing to pay for PC (38.8%) remains low ( $p < 0.05$ ). The SWOT analysis confirms the potential for developing PC in Bulgaria, emphasizing economic benefits but also highlighting the need for further training and awareness in this area.

**Conclusion:** Integrating pharmacists into MS treatment is associated with improved patient quality of life, economic benefits, and optimized medication therapy. Additional measures and policies at the national level are needed to establish pharmacists as key members of the multidisciplinary team in the care of MS patients.

<https://doi.org/10.1016/j.sapharm.2025.02.017>

#### Vitamin D Screening in Pharmacies: Insights from a Federal Campaign and Prospects for Professional Advancements

Olaf Rose<sup>1,\*</sup>, Johanna Pachmayr<sup>1</sup>, Stefanie Eppacher<sup>1</sup>, Stephanie Clemens<sup>1</sup>  
<sup>1</sup> Paracelsus Medical University

\* Corresponding author:

E-mail address: [olaf.rose@pmu.ac.at](mailto:olaf.rose@pmu.ac.at) (O. Rose).

**Background:** Pharmacies are ideal settings for health screening due to their accessibility and convenience. Increasing concern over vitamin D deficiency, especially in winter months in northern and mid-latitudes, underscores the importance of accessible screening options.

**Purpose:** This study evaluated vitamin D levels in early spring and examined the viability of a large-scale vitamin D screening initiative in pharmacies.

**Methods:** The research was a cross-sectional, multicenter survey integrated into routine pharmacy care in the State of Salzburg. Data was collected anonymously, utilizing a fluorescent immunoassay for point-of-care-testing. Additionally, separate questionnaires were designed for patients and providers. Descriptive statistics were used to analyze quantitative data, with parametric and nonparametric tests applied to ensure comprehensive analysis. A maturity matrix was developed to assess the potential for broad implementation.

**Findings:** During a two-week campaign, 62 pharmacies performed 2,770 vitamin D tests. Patients found out about the campaign mainly by advertisement in the pharmacies. Every participant completed the questionnaire, and 45 pharmacists took part in a follow-up survey. About half of the patients had never tested their vitamin D level before. Results showed that 56.2% of participants had vitamin D deficiency, and 25.2% had insufficient levels. Higher BMI was linked to lower vitamin D levels, while daily supplementation was associated with higher levels than intermittent dosing. Patient satisfaction was high, and pharmacists appreciated the positive patient feedback, expressing interest in expanding testing. Most pharmacists supported a professional change towards more clinical pharmacy services in the future. The maturity matrix developed in this study could support corporate adoption of similar screening efforts.

**Conclusion:** This large-scale federal vitamin D screening in pharmacies was successful, with both patients and pharmacists reporting high satisfaction. It extended this otherwise underutilized medical service to patients who typically lack access to it. The study revealed widespread vitamin D deficiency among participants, reinforcing the potential value of regular pharmacy-based screening. Pharmacists showed enthusiasm for further expanding clinical services to support patient health in new ways.

<https://doi.org/10.1016/j.sapharm.2025.02.018>

#### Using a mixed-mode method to assess the effects of a structured counseling approach on pharmacy students' communication self-efficacy and skills

Yunn-Fang Ho<sup>1,\*</sup>, Yen-Ming Huang<sup>2</sup>, Hsun-Yu Chan<sup>3</sup>, Ling-Ling Hsieh<sup>4</sup>, Ling-Jie Chen<sup>5</sup>

<sup>1</sup> Graduate Institute of Clinical Pharmacy, College of Medicine, National Taiwan University; <sup>2</sup> National Taiwan University; <sup>3</sup> National Taiwan Normal University; <sup>4</sup> School of Pharmacy, College of Medicine, National Taiwan University; <sup>5</sup> Chen-Fang Pharmacy, Yilan County, Taiwan

\* Corresponding author:

E-mail address: [yfho@ntu.edu.tw](mailto:yfho@ntu.edu.tw) (Y.-F. Ho).

**Background:** Standardized instructional methods in pharmacy education are vital for ensuring high-quality teaching and accountability. To support students' counseling skills for over-the-counter (OTC) medications, we introduced a 5-step structured counseling approach to guide their practice.

**Purpose:** This study involved senior pharmacy students applying structured approach to counseling on OTC medications during advanced experiential training. Through a mixed-mode assessment technique, we sought to evaluate the impact of this approach on the students' self-efficacy and counseling skills for